

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 **Claim 1 (original):** A display driver comprising:
2 a plurality of display outputs each for outputting a
3 drive voltage to a row or a column of a display; and
4 a plurality of configuration bits each having a
5 row/column setting, wherein
6 each configuration bit is exclusively associated with one
7 or more of said plurality of display outputs such
8 that said row/column setting of said configuration
9 bit is used to configure all of said associated one
10 or more display outputs for driving either rows or
11 columns of the display.

1 **Claim 2 (original):** The display driver of claim 1,
2 wherein some number of said display outputs associated with
3 one configuration bit can be configured to drive rows of the
4 display and another number of said display outputs associated
5 with another configuration bit can be configured to drive
6 columns of the display independent of each other.

1 **Claim 3 (original):** The display driver of claim 1,
2 wherein, when at least one display output is set to drive a
3 row of the display, said drive voltage output by said display
4 output is set independent of the total number of rows in the
5 display.

1 **Claim 4 (original):** The display driver of claim 1,
2 wherein the display driver is adapted to drive a bistable
3 liquid crystal display.

1 **Claim 5 (original):** The display of claim 4, wherein said
2 bistable liquid crystal display includes a chiral nematic
3 liquid crystal material having a planar texture and a focal
4 conic texture that are stable in the absence of an electric
5 field.

1 **Claim 6 (original):** The display driver of claim 1,
2 wherein each display output is uniquely associated with one of
3 the configuration bits.

1 **Claim 7 (original):** A display driver comprising:
2 a plurality of driver blocks, each of said plurality of
3 driver blocks including:
4 a plurality of display outputs each for outputting a
5 drive voltage to a row or column of a display;
6 and
7 a configuration bit having a row/column setting,
8 wherein
9 said driver block is configured to drive either rows
10 or columns of the display according to said
11 configuration bit row/column setting, and each
12 of said plurality of display outputs of said
13 driver block is thereby configured to input
14 said drive voltage to either a row or a column
15 of the display, respectively.

1 **Claim 8 (original):** The display driver of claim 7,
2 wherein some number of said plurality of driver blocks can be
3 configured to drive rows of the display and another number of
4 said plurality of driver blocks can be configured to drive
5 columns of the display.

1 **Claim 9 (original):** The display driver of claim 7,
2 wherein, when at least one of said plurality of driver blocks
3 is set to drive rows of the display, said drive voltage output
4 by said display outputs of said at least one of said plurality
5 of driver blocks is set independent of the total number of
6 rows in the display.

1 **Claim 10 (original):** The display driver of claim 7,
2 wherein the display driver is adapted to drive a bistable
3 liquid crystal display.

1 **Claim 11 (original):** The display driver of claim 10,
2 wherein said driver is adapted for driving a bistable liquid
3 crystal display including a chiral nematic liquid crystal
4 material having a planar texture and a focal conic texture
5 that are stable in the absence of an electric field.

1 **Claim 12 (original):** The display driver of claim 7,
2 wherein each of said plurality of driver blocks can be set to
3 drive either rows or columns independently of any other driver
4 block setting.

1 **Claim 13 (original):** A display driver comprising:
2 a first driver block including:
3 a plurality of display outputs, each for outputting
4 a drive voltage to either a row or a column of
5 a display; and
6 a configuration bit having a row/column setting for
7 setting said first driver block to drive either
8 rows or columns of the display, wherein

9 all of said plurality of display outputs are set to
10 drive either rows or columns of the display,
11 respectively;
12 and
13 a second driver block including:
14 another plurality of display outputs, each for
15 outputting a drive voltage to either a row or a
16 column of the display; and
17 another configuration bit having a row/column
18 setting for setting said second driver block to
19 drive either rows or columns of the display,
20 wherein
21 all of said another plurality of display outputs are
22 set to drive either rows or columns of the
23 display, respectively.

1 **Claim 14 (original):** The display driver of claim 13,
2 wherein said first and said second drive blocks can be set
3 independently of each other to drive either rows or columns.

1 **Claim 15 (original):** The display driver of claim 13,
2 wherein, when at least one of said first and second driver
3 blocks is set to drive rows of the display, said drive voltage
4 output by said display outputs of said at least one of said
5 first and second driver blocks is set independent of the total
6 number of rows in the display.

1 **Claim 16 (original):** The display driver of claim 13,
2 wherein the display driver is adapted to drive a bistable
3 liquid crystal display.

1 **Claim 17 (original):** The display driver of claim 16,
2 wherein said display driver is adapted for driving a bistable
3 liquid crystal display including a chiral nematic liquid

4 crystal material having a planar texture and a focal conic
5 texture that are stable in the absence of an electric field.

1 **Claim 18 (original):** A display driver for driving a
2 bistable display, said display driver comprising:

3 a plurality of driver blocks, each driver block
4 including:

5 a plurality of display outputs, each for outputting
6 a voltage to a row or a column of a display;
7 and

8 a configuration bit having a row/column setting,
9 wherein

10 all of said plurality of display outputs of said
11 driver block are set to drive either rows or
12 columns of the display according to said
13 configuration bit setting, wherein

14 each of said plurality of driver blocks can be set
15 independently to drive either rows or columns,
16 and further wherein

17 said driver is adapted to drive a bistable display.

1 **Claim 19 (original):** The display driver of claim 18,
2 wherein one of said driver blocks has a certain number of
3 display outputs, and further wherein another of said output
4 blocks has a different number of display outputs.

1 **Claim 20 (original):** The display driver of claim 18,
2 wherein said configuration bits are implemented by using
3 memory storage.

1 **Claim 21 (original):** The display driver of claim 18,
2 wherein each of said configuration bits is an input lead to
3 said display driver and further wherein said setting is set by
4 providing a voltage and/or logic setting to said input lead.

1 **Claim 22 (original):** The display driver of claim 18,
2 further including a data bus input, wherein said row/column
3 setting of said configuration bit is obtained from said data
4 bus input.

1 **Claim 23 (original):** The display driver of claim 18,
2 wherein the voltage of a display output driving a row of the
3 display driver is independent of the total number of rows in
4 the display.

1 **Claim 24 (original):** The display driver of claim 18,
2 further including a cascade output and a cascade input for
3 cascading multiple drive blocks and/or multiple display
4 drivers together.

1 **Claim 25 (original):** A display driver system comprising
2 a plurality of display drivers as defined in claim 24 cascaded
3 together, wherein said system drives the display.

1 **Claim 26 (original):** The display driver of claim 18,
2 wherein said display driver is adapted for driving a bistable
3 display including a chiral nematic liquid crystal material
4 having a planar texture and a focal conic texture that are
5 stable in the absence of an electric field.

1 **Claim 27 (original):** A display driver comprising:
2 a plurality of driver blocks, each driver block including
3 a corresponding plurality of display outputs, each
4 of said plurality of display outputs being effective
5 for outputting a voltage to a row or a column of a
6 display; and
7 a plurality of configuration bits equal to the number of
8 said plurality of driver blocks, wherein

9 each configuration bit has a row/column setting and is
10 associated with a corresponding driver block, and
11 further wherein,
12 each driver block is set to drive either rows or columns
13 according to said row/column setting, such that each
14 of said corresponding plurality of display outputs
15 of said driver block are all set for driving a row
16 or a column, respectively, of the display.

1 **Claim 28 (original):** A display driver for driving a
2 display, said display driver comprising:
3 a plurality of driver blocks, each driver block
4 including:
5 a plurality of display outputs, each for outputting
6 a voltage to a row or a column of a display;
7 a configuration bit having a row/column setting;
8 a cascade input; and
9 a cascade output, wherein
10 all of said plurality of display outputs of said
11 driver block are set to drive either rows or
12 columns of the display according to said
13 configuration bit setting,
14 wherein each of said plurality of driver blocks can be
15 set independently to drive either rows or columns,
16 and further
17 wherein two or more of said plurality of driver blocks
18 can be cascaded together for driving additional rows
19 or columns of the display by connecting a cascade
20 input of one of said two or more driver blocks to
21 the cascade output of another of said two or more
22 driver blocks.

1 **Claim 29 (original):** The display driver of claim 28,
2 wherein a first display driver can be cascaded with a second
3 display driver by connecting the cascade input of one of a
4 plurality of blocks of the second display driver with the
5 cascade output of one of a plurality of blocks of the first
6 display driver for driving additional rows or columns of the
7 display.

1 **Claim 30 (original):** A display driver comprising:
2 a plurality of display outputs each for outputting a
3 drive voltage to a row or a column of a display;
4 a configuration bit having a row/column setting;
5 a cascade input; and
6 a cascade output, wherein
7 the row/column setting of said configuration bit is used
8 to configure one or more display outputs for driving
9 either a row or a column of the display, and further
10 wherein
11 a first display driver can be cascaded with a second
12 display driver by connecting the cascade output of
13 the first display driver with the cascade input of
14 the second display driver for driving additional
15 rows or columns of the display.

1 **Claim 31 (original):** A liquid crystal display device
2 comprising:
3 chiral nematic liquid crystal material;
4 substrates that form therebetween a region in which said
5 liquid crystal material is disposed, wherein said
6 substrates cooperate with said liquid crystal
7 material to form in said region scattering focal
8 conic and reflecting planar textures that are stable
9 in the absence of an electric field;

10 electrodes disposed on said substrates effective to apply
11 an electric field to areas of said region
12 corresponding to a plurality of columns and rows;
13 wherein incident light travels in a direction through
14 said region, comprising a light absorbing back layer
15 disposed downstream of said region relative to said
16 direction of incident light; and
17 a display driver for applying an electric field for
18 transforming at least a portion of said liquid
19 crystal material to at least one of the focal conic
20 and planar textures, said display driver comprising:
21 a plurality of display outputs each for outputting a
22 drive voltage to one of said rows or one of said
23 columns; and
24 a plurality of configuration bits each having a
25 row/column setting;
26 wherein each said configuration bit is exclusively
27 associated with one or more of said plurality of
28 display outputs such that said row/column setting of
29 said configuration bit is used to configure all of
30 said associated one or more display outputs for
31 driving either said rows or said columns.

1 **Claim 32 (original):** The liquid crystal display device
2 of claim 31, wherein some number of said display outputs
3 associated with one said configuration bit can be configured
4 to said rows and another number of said display outputs
5 associated with another said configuration bit can be
6 configured to drive said columns independent of each other.

1 **Claim 33 (original):** The liquid crystal display device
2 of claim 31, wherein, when at least one of said display
3 outputs is set to drive one said row, said drive voltage

4 output by the at least one said display output is set
5 independent of the total number of said rows in the display.

1 **Claim 34 (original):** A reflective full color liquid
2 crystal display device comprising:

3 first chiral nematic liquid crystal material comprising
4 liquid crystal having a pitch length effective to
5 reflect visible light of a first color, second
6 chiral nematic liquid crystal material comprising
7 liquid crystal having a pitch length effective to
8 reflect visible light of a second color, and third
9 chiral nematic liquid crystal material comprising
10 liquid crystal having a pitch length effective to
11 reflect visible light of a third color;

12 substrates that form therebetween a first region in which
13 said first material is disposed, a second region in
14 which said second material is disposed and a third
15 region in which said third material is disposed,
16 wherein said first region, said second region and
17 said third region are stacked relative to each
18 other;

19 electrodes disposed on said substrates effective to apply
20 an electric field to areas of said first region,
21 said second region and said third region,
22 corresponding to a plurality of columns and rows;

23 wherein said substrates cooperate with said first
24 material, said second material and said third
25 material to form in said first region, said second
26 region and said third region, scattering focal conic
27 and reflecting planar textures that are stable in
28 the absence of an electric field;

29 wherein incident light travels in a direction
30 sequentially through said first region, said second

31 region and said third region, said first region
32 being closest to a viewer, comprising a light
33 absorbing back layer disposed downstream of said
34 third region relative to said direction of incident
35 light;
36 wherein the incident light is reflected by the planar
37 textures of said first region, said second region
38 and said third region such that reflected light
39 leaving the display exhibits a color that is an
40 additive mixing of combinations of said colors which
41 are reflected from said planar textures, and said
42 incident light passing through said first region,
43 said second region and said third region is absorbed
44 by said light absorbing back layer; and
45 a display driver for applying an electric field for
46 transforming at least a portion of the liquid
47 crystal of at least one of said first material, said
48 second material and said third material, to at least
49 one of the focal conic and planar textures, said
50 display driver comprising:
51 a plurality of display outputs each for outputting a
52 drive voltage to one of said rows or one of said
53 columns, and
54 a plurality of configuration bits each having a
55 row/column setting,
56 wherein each said configuration bit is exclusively
57 associated with one or more of said plurality of
58 display outputs such that said row/column setting of
59 said configuration bit is used to configure all of
60 said associated one or more display outputs for
61 driving either said rows or said columns;

62 wherein a proportion of at least one of said first
63 material, said second material and said third
64 material exhibits a planar texture in the absence of
65 an electric field and a proportion of the at least
66 one of said first material, said second material and
67 said third material exhibits a focal conic texture
68 in the absence of an electric field, wherein said
69 display driver provides an electric field pulse of
70 sufficient amplitude and duration to change the
71 proportions of the at least one of said first
72 material, said second material and said third
73 material in said planar and focal conic textures,
74 whereby the intensity of light reflected may be
75 selectively adjusted.

1 **Claim 35 (original):** A reflective liquid crystal display
2 device comprising:

3 first chiral nematic liquid crystal material comprising
4 liquid crystal having a pitch length effective to
5 reflect electromagnetic radiation of a first
6 wavelength and second chiral nematic liquid crystal
7 material comprising liquid crystal having a pitch
8 length effective to reflect electromagnetic
9 radiation of a second wavelength;

10 substrates that form therebetween a first region in which
11 said first material is disposed and a second region
12 in which said second material is disposed, wherein
13 said first region and said second region are stacked
14 relative to each other;

15 electrodes disposed on said substrates effective to apply
16 an electric field to areas of said first region and
17 said second region, corresponding to a plurality of
18 columns and rows;

19 wherein said substrates cooperate with said first
20 material and said second material to form in said
21 first region and said second region, scattering
22 focal conic and reflecting planar textures that are
23 stable in the absence of an electric field;

24 wherein incident light travels in a direction
25 sequentially through said first region and said
26 second region, said first region being closest to a
27 viewer, comprising a light absorbing back layer
28 disposed downstream of said second region relative
29 to said direction of incident light;

30 wherein the incident light is reflected by the planar
31 textures of said first region and said second region
32 such that reflected light leaving the display
33 exhibits a wavelength that is an additive mixing of
34 combinations of said wavelengths which are reflected
35 from said planar textures, and said incident light
36 passing through said first region and said second
37 region is absorbed by said light absorbing back
38 layer; and

39 a display driver for applying an electric field for
40 transforming at least a portion of said liquid
41 crystal material of the liquid crystal of at least
42 one of said first material and said second material,
43 to at least one of the focal conic and planar
44 textures, said display driver comprising:

45 a plurality of display outputs each for outputting a
46 drive voltage to one of said rows or one of said
47 columns, and

48 a plurality of configuration bits each having a
49 row/column setting,

50 wherein each said configuration bit is exclusively
51 associated with one or more of said plurality of
52 display outputs such that said row/column setting of
53 said configuration bit is used to configure all of
54 said associated one or more display outputs for
55 driving either said rows or said columns;

56 wherein a proportion of at least one of said first
57 material and said second material exhibits a planar
58 texture in the absence of a field and a proportion
59 of the at least one of said first material and said
60 second material exhibits a focal conic texture in
61 the absence of an electric field, wherein said
62 display driver provides an electric field pulse of
63 sufficient amplitude and duration to change the
64 proportions of the at least one of said first
65 material and said second material in said planar and
66 focal conic textures, whereby the intensity of light
67 reflected may be selectively adjusted.

1 **Claim 36 (original):** The liquid crystal display device
2 of claim 35, wherein the liquid crystal material of one of
3 said first material and said second material has a pitch
4 length effective to reflect visible light and the liquid
5 crystal of the other of said first material and said second
6 material has a pitch length effective to reflect infrared
7 radiation.

1 **Claim 37 (original):** The liquid crystal display device
2 of claim 35, wherein the liquid crystal of said first material
3 has a pitch length effective to reflect visible light of a
4 first color and the liquid crystal of said second material has
5 a pitch length effective to reflect visible light of a second
6 color.

1 **Claim 38 (original):** A chiral nematic liquid crystal
2 display, comprising:

3 chiral nematic liquid crystal material located between
4 first and second substrates, said material including
5 a planar texture having a circular polarization of a
6 predetermined handedness and a focal conic texture
7 that are stable in an absence of an electric field;

8 electrodes disposed on said first and second substrates
9 effective to apply an electric field to areas of
10 said region corresponding to a plurality of columns
11 and rows;

12 a first quarter wave retarder located adjacent to said
13 first substrate;

14 a linear polarizer located adjacent to said first quarter
15 wave retarder;

16 a second quarter wave retarder located adjacent to said
17 linear polarizer;

18 a translector having a reflective side adjacent to said
19 second quarter wave retarder and a light
20 transmitting side;

21 a light source adjacent to said transmitting side, said
22 light source being selectively energizeable to emit
23 light through said translector; and

24 a display driver for applying an electric field for
25 transforming at least a portion of said liquid
26 crystal material to at least one of the focal conic
27 and planar textures, said display driver comprising:

28 a plurality of display outputs each for outputting a
29 drive voltage to one of said rows or one of said
30 columns; and

31 a plurality of configuration bits each having a
32 row/column setting,

wherein each said configuration bit is exclusively associated with one or more of said plurality of display outputs such that said row/column setting of said configuration bit is used to configure all of said associated one or more display outputs for driving either said rows or said columns.

Claim 39 (original): A liquid crystal display device comprising:

chiral nematic liquid crystal material;
substrates that form therebetween a region in which said liquid crystal material is disposed;
at least one alignment surface that is effective to substantially homogeneously align the liquid crystal director adjacent thereto, wherein at least one of said substrates and each said alignment surface cooperates with said liquid crystal material so as to form focal conic and planar textures that are stable in the absence of an electric field, each said alignment surface being effective to provide at least one of the following:

- (a) a brightness at a wavelength of peak reflection of said planar texture that is increased by at least 5% as compared to an identical liquid crystal device but with inhomogeneous alignment surfaces,
- (b) the focal conic texture with a reflectance that does not exceed 10% of electromagnetic radiation incident on the display device at a wavelength of peak reflection of the planar texture, and
- (c) a degree of circular polarization at a wavelength of peak reflection of the planar texture, which is increased by at least 10% as compared to an

26 identical liquid crystal device but with
27 inhomogeneous alignment surfaces; and
28 a display driver for applying an electric field for
29 transforming at least a portion of said liquid
30 crystal material to at least one of the focal conic
31 and planar textures, said display driver comprising:
32 a plurality of display outputs each for outputting a
33 drive voltage to one of said rows or one of said
34 columns; and
35 a plurality of configuration bits each having a
36 row/column setting,
37 wherein each said configuration bit is exclusively
38 associated with one or more of said plurality of
39 display outputs such that said row/column setting of
40 said configuration bit is used to configure all of
41 said associated one or more display outputs for
42 driving either said rows or said columns.

1 **Claim 40 (original):** The liquid crystal display device
2 of claim 39, wherein each said alignment surface cooperates
3 with said material so as to be effective in increasing
4 brightness by at least 5% at a wavelength of peak reflection
5 of said planar texture.

1 **Claim 41 (original):** The liquid crystal display device
2 of claim 39, wherein each said alignment surface is effective
3 to provide the focal conic texture with a reflectance that
4 does not exceed 10% of electromagnetic radiation incident on
5 the display device at a wavelength of peak reflection of the
6 planar texture.

1 **Claim 42 (original):** The liquid crystal display device
2 of claim 39, wherein each said alignment surface is effective
3 in providing the degree of circular polarization at a
4 wavelength of peak reflection of the planar texture, which is
5 increased by at least 10% as compared to the identical liquid
6 crystal device but with inhomogeneous alignment surfaces.

1 **Claim 43 (new):** A display driver comprising:
2 a plurality of display outputs each configurable for
3 outputting a drive voltage to a row and also
4 alternatively configurable for outputting a drive
5 voltage to a column; and
6 a plurality of configuration bits each having a
7 row/column setting and each configuration bit being
8 associated with one or more of said plurality of
9 display outputs, wherein
10 said row/column setting of each one of said configuration
11 bits is used to configure all of said associated one
12 or more display outputs for driving a row of the
13 display when said row/column setting is set with a
14 row setting or alternatively said configuration bit
15 is used to configure all of said associated one or
16 more display outputs for driving a column of the
17 display when said row/column setting is set with a
18 column setting.

1 **Claim 44 (new):** The display driver of claim 43, wherein
2 some number of said display outputs associated with one
3 configuration bit can be configured to drive rows of the
4 display and another number of said display outputs associated
5 with another configuration bit can be configured to drive
6 columns of the display independent of each other.